

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) An isolated nucleic acid molecule ~~comprising nucleotides which code for~~ encoding the amino acid sequence of SEQ ID NO: 2.
2. (original) A recombinant vector comprising the nucleic acid molecule of claim 1.
3. (original) The recombinant vector of claim 2, wherein said recombinant vector is a plasmid.
4. (original) The recombinant vector of claim 2, wherein said recombinant vector is a prokaryotic or eukaryotic expression vector.
5. (original) The recombinant vector of claim 2, wherein the nucleic acid molecule is operably linked to a heterologous promoter.
6. (currently amended) An isolated host cell comprising the nucleic acid molecule of claim 1.
7. (currently amended) The isolated host cell of claim 6, wherein the host cell is a eukaryotic host cell.
8. (currently amended) The isolated host cell of claim 6, wherein the host cell is a prokaryotic host cell.
9. (original) An isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1.
10. (original) A recombinant vector comprising the nucleic acid molecule of claim 9.
11. (original) The recombinant vector of claim 10, wherein said recombinant vector is a plasmid.
12. (original) The recombinant vector of claim 10, wherein said recombinant vector is a prokaryotic or eukaryotic expression vector.
13. (original) The recombinant vector of claim 10, wherein the nucleic acid molecule is operably linked to a heterologous promoter.

14. (currently amended) An isolated host cell comprising the nucleic acid molecule of claim 9.

15. (currently amended) The isolated host cell of claim 14, wherein the host cell is a eukaryotic host cell.

16. (currently amended) The isolated host cell of claim 14, wherein the host cell is a prokaryotic host cell.

17. (withdrawn) An isolated nucleic acid molecule comprising nucleotides which code for the amino acid sequence of SEQ ID NO: 4

18. (withdrawn) A recombinant vector comprising the nucleic acid molecule of claim 17.

19. (withdrawn) The recombinant vector of claim 18, wherein said recombinant vector is a plasmid.

20. (withdrawn) The recombinant vector of claim 18, wherein said recombinant vector is a prokaryotic or eukaryotic expression vector.

21. (withdrawn) The recombinant vector of claim 18, wherein the nucleic acid molecule is operably linked to a heterologous promoter.

22. (withdrawn) A host cell comprising the nucleic acid molecule of claim 17.

23. (withdrawn) The host cell of claim 22, wherein the host cell is a eukaryotic host cell.

24. (withdrawn) The host cell of claim 22, wherein the host cell is a prokaryotic host cell.

25. (withdrawn) An isolated nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 3.

26. (withdrawn) A recombinant vector comprising the nucleic acid molecule of claim 25.

27. (withdrawn) The recombinant vector of claim 26, wherein said recombinant vector is a plasmid.

28. (withdrawn) The recombinant vector of claim 26, wherein said recombinant vector is a prokaryotic or eukaryotic expression vector.

29. (withdrawn) The recombinant vector of claim 26, wherein the nucleic acid molecule is operably linked to a heterologous promoter.
30. (withdrawn) A host cell comprising the nucleic acid molecule of claim 25.
31. (withdrawn) The host cell of claim 30, wherein the host cell is a eukaryotic host cell.
32. (withdrawn) The host cell of claim 30, wherein the host cell is a prokaryotic host cell.
33. (currently amended) A method of immunizing a mammal against Group B ~~streptococci~~ streptococcal infection, said method comprising administering to the mammal a vaccine comprising an immunologically effective amount of a recombinantly produced protein comprising the amino acid sequence of SEQ ID NO: 2.
34. (original) The method of claim 33, wherein the vaccine further comprises an adjuvant.
35. (original) The method of claim 34, wherein the adjuvant comprises alum.
36. (original) The method of claim 33, wherein the vaccine further comprises an immunologically effective amount of a recombinantly produced protein comprising the amino acid sequence of SEQ ID NO: 4.
37. (original) The method of claim 36, wherein the vaccine further comprises an adjuvant.
38. (withdrawn) A method of immunizing a mammal against Group B streptococci infection, said method comprising administering to the mammal a vaccine comprising an immunologically effective amount of a recombinantly produced protein comprising the amino acid sequence of SEQ ID NO: 4.
39. (withdrawn) The method of claim 38, wherein the vaccine further comprises an adjuvant.
40. (withdrawn) The method of claim 39, wherein the adjuvant comprises alum.
41. (withdrawn) A diagnostic method for determining whether a mammal is infected or colonized by virulent Group B streptococci (GBS), said method comprising the steps of:
 - (a) collecting a bodily fluid or culture from the mammal;

(b) analyzing the bodily fluid or culture for the presence or absence of one or more gene products specific to type 111-3 GBS;

wherein the presence of one or more gene products specific to type 111-3 GBS indicates infection or colonization by virulent GBS.

42. (withdrawn) The diagnostic method of claim 41, wherein the one or more gene products specific to type III-3 GBS comprise a protein, said protein comprising the amino acid sequence of SEQ ID NO: 2.

43. (withdrawn) The diagnostic method of claim 41, wherein the one or more gene products specific to type III-3 GBS comprise a protein, said protein comprising the amino acid sequence of SEQ ID NO: 4.

44. (withdrawn) The diagnostic method of claim 41, wherein the one or more gene products specific to type III-3 GBS comprise a first protein comprising the amino acid sequence of SEQ ID NO: 2 and a second protein comprising the amino acid sequence of SEQ ID NO: 4.

45. (withdrawn) The diagnostic method of claim 41, wherein the mammal is a human.

46. (withdrawn) The diagnostic method of claim 41, wherein the bodily fluid or culture is a vaginal or rectovaginal culture.

47. (withdrawn) The diagnostic method of claim 41, wherein the bodily fluid or culture is a throat culture.

48. (withdrawn) The diagnostic method of claim 41, wherein the bodily fluid or culture is blood, serum, amniotic fluid, cerebrospinal fluid, or joint fluid.

49. (withdrawn) The diagnostic method of claim 41, wherein the analysis step comprises using polymerase chain reaction (PCR) to identify the presence or absence of one or more gene products specific to type III-3 GBS.

50. (withdrawn) The diagnostic method of claim 49, wherein the analysis step comprises using PCR to determine the presence or absence of the *spb1* gene product.

51. (withdrawn) The diagnostic method of claim 49, wherein the analysis step comprises using PCR to determine the presence or absence of the *spb2* gene product.

52. (withdrawn) The diagnostic method of claim 41, wherein the analysis step comprises using antibodies to identify the presence or absence of one or more gene products specific to type III-3 GBS.

53. (withdrawn) The diagnostic method of claim 52, wherein the antibodies are monoclonal antibodies.

54. (withdrawn) The diagnostic method of claim 53, wherein the monoclonal antibodies are specific for the *spbl* gene product.

55. (withdrawn) The diagnostic method of claim 53, wherein the monoclonal antibodies are specific for the *spb2* gene product.

56. (original) An isolated and purified protein comprising the amino acid sequence of SEQ ID NO: 2.

57. (currently amended) A vaccine for immunizing a mammalian host against virulent Group B ~~streptococci~~ streptococcal infection, said vaccine comprising the protein of claim 56.

58. (original) The vaccine of claim 57, further comprising an adjuvant.

59. (original) The vaccine of claim 58, wherein the adjuvant comprises alum.

60. (original) The vaccine of claim 57, wherein the protein is conjugated to a bacterial polysaccharide or oligosaccharide.

61. (withdrawn) An isolated and purified protein comprising the amino acid sequence of SEQ ID NO: 4.

62. (withdrawn) A vaccine for immunizing a mammalian host against virulent Group B streptococci infection, said vaccine comprising the protein of claim 61.

63. (withdrawn) The vaccine of claim 62, further comprising an adjuvant.

64. (withdrawn) The vaccine of claim 63, wherein the adjuvant comprises alum.

65. (withdrawn) The vaccine of claim 62, further comprising an isolated and purified protein comprising the amino acid sequence of SEQ ID NO: 2.

66. (withdrawn) The vaccine of claim 65, further comprising an adjuvant.

67. (withdrawn) The vaccine of claim 62, wherein the protein is conjugated to a bacterial polysaccharide or oligosaccharide.